

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF NEW YORK

PPC BROADBAND, INC., d/b/a PPC,

Plaintiff,

Civil Action No.

5:13-CV-0460 (GLS/DEP)

v.

TIMES FIBER COMMUNICATIONS,
INC.,

Defendant.

APPEARANCES:

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U.S. MAGISTRATE JUDGE

REPORT AND RECOMMENDATION

This is a patent infringement action brought by PPC Broadband, Inc., d/b/a PPC ("PPC"), against Times Fiber Communications, Inc. ("TFC"), one of PPC's competitors. At issue is one patent relating to coaxial cable connectors.¹ The patent in suit involves a connector design structure intended to address the problem of loose connections and insure that a consistent and reliable electrical connection exists from the cable through the connector and extending all the way to the interface port to which it is attached. TFC has denied infringement, asserted affirmative defenses, and counterclaimed seeking a declaratory judgment of non-infringement and patent invalidity.

The parties disagree over the proper construction of several claim terms appearing in the remaining patent in suit. The issue of claim

¹ Infringement of three other patents was also alleged in PPC's complaint. See *generally* Dkt. No. 1. Specifically, PPC alleged that TFC infringed United States Patent No. 8,313,353 ("353 Patent"), United States Patent No. 8,192,237 ("237 Patent"), and United States Patent No. 8,323,060 ("060 Patent"). *Id.* On November 21, 2014, the Patent Trial and Appeal Board ("PTAB") issued a decision with respect to an *inter partes* review of the '353 and '060 Patents, finding that all of the claims of those patents that are at issue in this case are unpatentable. Dkt. No. 61 at 2. On December 8, 2014, the Patent and Trademark Office ("PTO") issued a decision, following an *inter partes* reexamination, rejecting or cancelling all of the claims of the '237 Patent that are asserted by PPC in this action. *Id.* Both of those determinations have been appealed by PPC, and those appeals remain pending. On January 23, 2015, Chief Judge Gary L. Sharpe approved a parties' joint stipulation to voluntarily dismiss, without prejudice, those claims and counterclaims relating to the '237, '353, and '060 Patents. *Id.* Accordingly, this report and recommendation addresses only the disputed terms found within the remaining patent at issue, United States Patent No. 8,337,229 ("229 Patent").

construction was referred to me for the issuance of a report and recommendation. The following constitute my recommendations based on the parties' comprehensive submissions and a claim construction hearing.

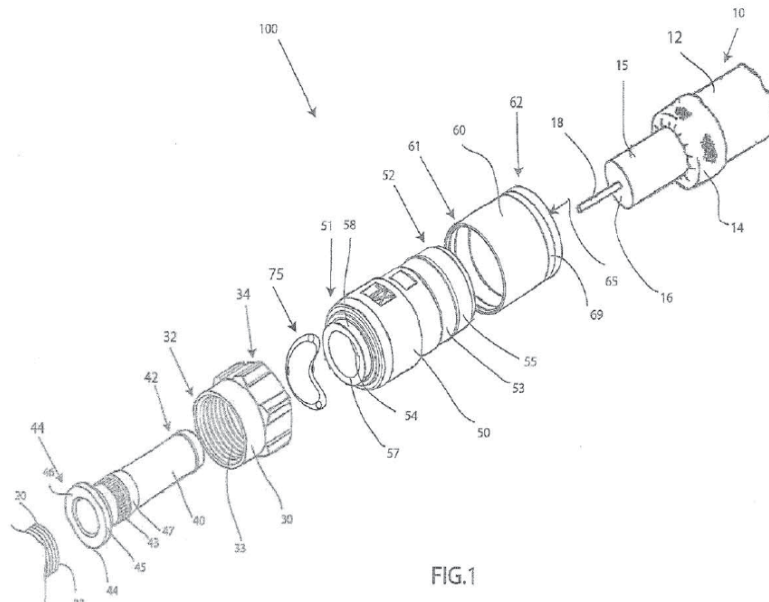
I. BACKGROUND

The sole patent left at issue in this case is the '229 Patent, granted on December 25, 2012, to inventor Noah Montena. Dkt. No. 1 at 1, 3; Dkt. No. 1-1; Dkt. No. 62.² The technology involved in the '229 Patent is not particularly complex. Generally, the patent relates to a connector used to link coaxial cables with devices such as televisions, cable boxes, and internet modems. Dkt. No. 1 at 3. Coaxial cables provide a means for the transmission of electric signals and are typically comprised of four components, including (1) an outer coating, or jacket, which acts as an environmental seal; (2) an outer conductor, usually a metal braid in combination with foil tape, designed both to prevent unwanted external magnetic interference and other influences from interfering with electric signals being conveyed by the cable and to act as an electrical ground or return path; (3) a dielectric layer, which serves as an insulator; and (4) a center conductor through which the electrical signals travel. Dkt. No. 39-16 at 3.

² The '229 Patent is annexed to both PPC's complaint and claim construction submission. Dkt. Nos. 1-1, 39-5.

When a reliable ground path and resulting shielding between a cable and a port are compromised, significant signal transmission problems can occur, including signal interruption, video pixilation, and data loss. Dkt. No. 39-16 at 3. The invention disclosed in the '229 Patent addresses this issue by eliminating gaps that can prevent the ground path and electromagnetic shielding provided by the outer connector from extending through the post fully to the port. *Id.* at 4. The inventor devised a means of solving the problem by including a highly conductive element, referred to as a "continuity member" or "continuity element," constructed and positioned in such a way as to insure consistent electrical contact with the nut and the conductive outer body that attaches to the post, thereby extending and maintaining a consistent electrical ground path from the cable's outer conductor all the way through to the interface port. *Id.*

The '229 Patent depicts one embodiment of the invention in Figure 1, shown below:



'229 Patent, Fig. 1. Figure 1 features a nut-body continuity element **75** that may be located between the nut **30** and the connector body **50** to allow for continuity and/or continuance of both physical and electrical contact or communication between the nut **30** and the connector body **50**. *Id.* at 4:51-55. Given this configuration, electrical continuity may be established and maintained throughout the connector **100** and to the interface port **20** by means of the conductive foil layer **15**, in contact with the conductive grounding shield **14**, which in turn contacts the connector body **50**, which then contacts the nut-body continuity element **75**, which then contacts the nut **30**, with the nut **30** being advanced into the interface port **20**. *Id.* at 4:55-68. Alternatively, electrical continuity can also be accomplished through the connector **100** via the conductive foil layer **15** in contact with the post **40**, which then contacts the connector body **50**, which in turn

contacts the nut-body continuity element **75**, which contacts the nut **30** being advanced into the interface port **20**. *Id.* at 4:68-5:6.

In 2010, PPC began marketing a connector with a continuity feature, known as the SignalTight connector. Dkt. No. 39-16 at 2. PPC alleges that, by its manufacture, sale, offering for sale, and/or importing of its QC II with QuickShield series of connectors, and other similar products, TFC has infringed the patents in suit. Dkt. No. 1 at 5-8.

II. PROCEDURAL HISTORY

PPC commenced this action on April 25, 2013, alleging infringement by TFC of the four patents originally in suit. Dkt. No. 1. In the claims that remain, PPC alleges that TFC has infringed Claims 14, 16, and 19 of the '229 Patent (the "asserted claims"). Dkt. No. 27-1 at 12. TFC has answered plaintiff's complaint, denying infringement, setting forth various affirmative defenses, and counterclaiming seeking a declaratory judgment of non-infringement and patent invalidity. Dkt. No. 14.

In accordance with this court's local patent rules, the parties have conferred and request guidance concerning the following disputed terms contained within the asserted claims of the '229 Patent:

<u>Term</u>
a connector body attached to a post
radial end face surface extending from the inner surface/radial end face surface extending from the inner surface portion
inner surface or inner surface portion
outer surface/outer annular surface/annular outer surface
outer surface
axial direction

Dkt. No. 27-1 at 7-9.

The parties also report that they have been able to agree on construction of the following, previously disputed, terms:

<u>Term</u>	<u>Agreed Construction</u>
continuity element/continuity member	a conductive component that provides continuity of grounding
proximate	near
electrical continuity	a consistent electrical ground path

Dkt. No. 27-1 at 10.

Following the submission of extensive briefing and materials regarding these disputed claim terms, the court held a claim construction hearing on June 4, 2014. At the conclusion of the hearing, decision was reserved.

III. DISCUSSION

A. Claim of Construction: The Legal Framework

Patent claim construction presents an issue of law, to be decided by the court. *Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1329 (Fed. Cir. 2012); *Cybor Corp. V. FAS Techs., Inc.*, 138 F.3d 1448, 1456 (Fed.

Cir. 1998) (*en banc*); see also *Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1366 (Fed. Cir. 2004) ("The meaning and scope of patent claim terms, as determined by a district court's claim construction rulings, are legal issues central to most patent cases."). "Claim construction is a legal statement of the scope of the patent right; it does not turn on witness credibility, but on the content of the patent documents." *Lighting Ballast Control, LLC v. Philips Elecs. N. Am. Corp.*, 744 F.3d 1272, 1284 (Fed. Cir. 2014) (*en banc*).

As a general rule, a court tasked with construing a patent must assign claim terms their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the patent specification and prosecution history.³ *Butamax(TM) Advanced Biofuels LLC v. Gevo, Inc.*, 746 F.3d 1302, 1308-09 (Fed. Cir. 2014); *Thorner v. SONY Computer Entm't Am., LLC*, 669 F.3d 1362, 1365 (Fed.

³ PPC offers the following definition of a person of ordinary skill in the art:

One of ordinary skill in the art is a person who, by 2009, had at least a Bachelor's Degree in Engineering and several years' experience in the cable and telecom industry related to the design, manufacture, or utilization of coaxial cable connectors and communication systems. A Bachelor's Degree in Engineering requires basic course work in physics and mechanical devices, and experience in the cable and telecom industry will result in the use of the knowledge obtained in those courses as applied to engineering problems with coaxial cable connectors.

Dkt. No. 39 at 9. TFC has neither challenged that definition nor offered one of its own.

Cir. 2012); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005). "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips*, 415 F.3d at 1313; *accord*, *Thorner*, 669 F.3d 1365; *see also CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) ("Generally speaking, we indulge a 'heavy presumption' that a claim term carries its ordinary and customary meaning.").

There are two exceptions to this general rule. The first involves circumstances in which a patentee has acted as his own lexicographer, setting out a definition of a term that differs from its ordinary and customary meaning. *Butamax(TM) Advanced Biofuels LLC v. Gevo, Inc.*, 746 F.3d at 1309; *Thorner*, 669 F.3d at 1365. "To act as its own lexicographer, a patentee must 'clearly set forth a definition of the disputed claim term' other than its plain and ordinary meaning." *Thorner*, 669 F.3d at 1365 (quoting *CCS Fitness, Inc.*, 288 F.3d at 1366); *accord*, *Aventis Pharma S.A.*, 675 F.3d at 1330. Under the second exception, a claim term may also properly be given a meaning that differs from its customary meaning "'when the patentee disavows the full scope of a claim term either in the specification or during prosecution.'" *Butamax(TM) Advanced*

Biofuels LLC v. Gevo, Inc., 746 F.3d at 1309 (quoting *Thorner*, 669 F.3d at 1366); accord, *Aventis Pharma S.A.*, 675 F.3d at 1330. These two exceptions to the rule that patent terms should be given their ordinary meaning are both narrow and exacting. *Thorner*, 669 F.3d at 1366-67.

While the words of a patent claim will generally control, they should not be interpreted in isolation; "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1313. A patent's specification often constitutes the "single best guide to the meaning of a disputed term." *Vitronics*, 90 F.3d at 1582. In this respect, a patent specification, which some liken to an internal dictionary, must be carefully reviewed to determine whether, for example, the inventor has used a particular term in a manner inconsistent with its ordinary meaning. *Id.* When resorting to a patent's specification for guidance with respect to disputed claim terms, a court must consider it as a whole, and where possible, all portions should be read in a manner that renders the patent internally consistent. *Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1379-80 (Fed. Cir. 2001).

Although the language of a patent specification can provide important clues regarding the proper construction to be accorded to a claim term, there are limitations upon its usefulness. "[W]hile it is true that claims are to be interpreted *in light of* the specification and with a view to ascertaining the invention, it does not follow that limitations from the specification may be read into the claims." *Sjolund v. Musland*, 847 F.2d 1573, 1581 (Fed. Cir. 1988) (emphasis in original). "Nor should particular embodiments in the specification be read into the claims; the general rule is that the claims of a patent are not limited to the preferred embodiment." *Cornell Univ. v. Hewlett-Packard Co.*, 313 F. Supp. 2d 114, 126 (N.D.N.Y. 2004) (Mordue, J.) (citing, *inter alia*, *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1204 (Fed. Cir. 2002)).

In addition to the ordinary meaning of a claim term itself and the patent's specification, the prosecution history related to the patent in issue can help inform the determination of a proper claim term construction. *Phillips*, 415 F.3d at 1314. That history is generally comprised of "the complete record of proceedings before the Patent and Trademark Office [('PTO')], including any express representations made by the applicant regarding the intended scope of the claims," and an examination of any relevant prior art. *Vitronics*, 90 F.3d at 1582-83. Such evidence, which

typically chronicles the dialogue between the inventor and the PTO leading up to the issuance of a patent, and thus can act as a reliable indicator of any limitations or concessions on the part of the applicant, oftentimes proves highly instructive on the issue of claim construction. See *Phillips*, 415 F.3d at 1317 ("[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.").

B. Construction of Disputed Terms

To help place matters in context, I have set forth below the two asserted independent claims from the remaining patent in suit:

'229 Patent, Claim 14

- 14.** A coaxial cable connecting comprising:
a connector body attached to a post, the
connector body having a first end and a
second end, wherein the connector body
includes an annular outer surface proximate
the second end;
a coupling element rotatable about the post,
wherein the coupling element has an inner
surface, and an radial end face surface
extending from the inner surface, the end face
surface being configured to face toward a
longitudinal direction of the connector;
a continuity element having a first surface and a

second surface, the first surface contacting only the end face surface of the port coupling element and the second surface contacting only the outer annular surface of the connector body, the continuity member being separated from the post and positioned outside the inner surface of the coupling element and outside the connector body such that no portion of the continuity member is located either inside the connector body or inside the end face surface of the coupling element; and wherein the continuity element establishes and maintains electrical connection between the coupling element and the connector body in an axial direction.

'229 Patent, Claim 19

A method for facilitating grounding of a coaxial cable through the connector, comprising:
providing a coaxial cable connector, the coaxial cable connector including:
a connector body attached to a post, wherein the connector body has a first end and a second end and an outer surface proximate the second end;
a port coupling element, at least a portion of the port coupling element separated from the connector body by a distance, the port coupling element including an inner surface portion configured to rotatably engage the post, and a radial end surface extending from the inner surface portion and facing a longitudinal direction of the connector; and
disposing a continuity element outside the inner surface portion of the port coupling element and outside the connector body proximate the second end of the

connector body such that no portion of the continuity member is located either inside the connector body or inside the radial end face surface of the post coupling element, the continuity element having a first side configured to be biased against only the radial end face surface of the post coupling element and a second side configured to be biased against only the outer surface of the connector body; and wherein the continuity element establishes and maintains electrical continuity between the connector body and the port coupling element.

With the claim construction principles outlined above and the foregoing representative patent claims as a backdrop, I now turn to the specific claim terms in dispute.

1. A Connector Body Attached to a Post

All of the '229 Patent claims implicated in this case disclose "a connector body attached to a post." PPC proposes that this phrase be construed to mean "a post and connector body, which are separate components, of the connector (*i.e.* they are not a single integral component), that are interlocked with one another to prevent axial movement of one relative to the other." Dkt. No. 27-1 at 7; Dkt. No. 39 at 24. PPC contends that, as specified in the '229 Patent, the post and connector body are separate components that are attached to one another

in only some of the claims, including the three at issue. Dkt. No. 45 at 18. TFC proposes that this claim term be defined to mean "a body portion of the connector that is either integrally or separately attached to a post of the connector." Dkt. No. 27-1 at 7; Dkt. No. 37 at 22. This definition allows for the connector and post to be either a single unitary component or two separate components that become attached.

The same argument now advanced by TFC was raised and rejected in *PPC v. Corning Optical Commc'ns RF, LLC*, No. 12-CV-0911 (N.D.N.Y. filed June 5, 2012) ("*PPC I*"), in the context of two different patents. In *PPC I*, I reasoned that, if the connector body and post were made of a single unitary piece, it would be unnecessary to add the limitations that they be "engageable," "configured to engage," or "attached." See *PPC I*, No. 12-CV-0911, Dkt. No. 64 at 32. As TFC argues, however, the '229 Patent is not from the same family as those that were at issue in *PPC I*.

The difficulty with PPC's position, which asks the court to extrapolate and apply the reasoning of the claim construction decision in *PPC I* to this action, lies in the embodiment reflected in Figure 10, shown below:

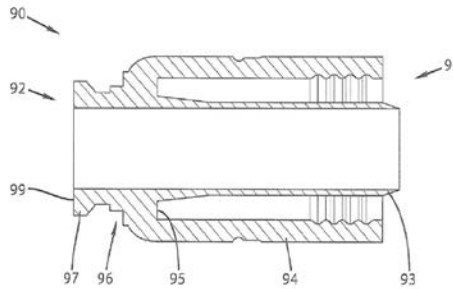


FIG.10

'229 Patent, Fig. 10. According to the specification, Figure 10 depicts an embodiment "of an integral post connector body **90** in accordance with a present invention." '229 Patent 11:26-27. The figure itself illustrates an embodiment in which the post and connector body are unitary, as confirmed by the use of the terms "integral post connector body," implying that the two are formed together as a single piece. *See, e.g., integral, adj. and n.*, Oxford English Dictionary, <http://www.oed.com/view/Entry/97344?redirectedFrom=integral#eid> (last visited Jan. 29, 2015) ("1. Of or pertaining to a whole 2. Made up of component parts which together constitute a unity 3. Having no part or element separated, taken away, or lacking; unbroken, whole, entire, complete.").

PPC responds to this argument by suggesting that Figure 10 "is covered by other claims of the '229 Patent, such as independent claims 1 and 9, neither of which require the claimed connector body to be attached

to a post." Dkt. No. 45 at 18. (emphasis omitted). While it is true, as PPC contends, that disclosed embodiments may be within the scope of other allowed but unasserted claims, it is also generally true that a court may not construe a term to exclude or ignore a preferred embodiment. See, e.g., *PSN Ill., LLC v. Invoclar Vivadent, Inc.*, 525 F.3d 1159, 1165-66 (Fed. Cir. 2008) ("[C]ourts must recognize that disclosed embodiments may be within the scope of other allowed but unasserted claims."); *Butamax(TM) Advanced Biofuels, LLC*, 746 F.3d at 1312 ("[T]his court normally does not interpret claim terms in a way that excludes embodiments disclosed in the specification." (quotation marks and alteration omitted)).

A court is permitted to construe a term to read out a preferred embodiment in certain circumstances, such as when the specification or prosecution history "clearly disclaim[s]" a preferred embodiment. *Oatey v. IPS Corp.*, 514 F.3d 1271, 1277 (Fed. Cir. 2008). Neither the specification nor prosecution history in this case, however, explicitly limits the embodiment reflected in Figure 10 to any particular claims.

Another exception to the general rule that a court may not construe a term to exclude a preferred embodiment was articulated in *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1383 (Fed. Cir. 2008). In that case, the Federal Circuit upheld the district court's construction of a

disputed term even after concluding that the construction excluded "both the preferred embodiment and every illustrated embodiment from [the asserted claims]" because the district court's construction "le[ft] open the possibility that claims not at issue . . . encompass omitted embodiments." *Helmsderfer*, 527 F.3d at 1383.

In this case, although I agree with TFC that PPC's proposed construction of the term "a connector body attached to a post" risks reading out the embodiment depicted in Figure 10, I do not agree that the term (and consequently Claims 14 and 19 that include the term) encompasses that particular embodiment. Only in the context of describing the embodiment reflected in Figure 10 does the specification clearly suggest that the connector body and post are a single unitary component. '229 Patent, 11:25 – 12:13, 12:64 – 13:5. Everywhere else throughout the specification, however, the post is described as an independent component. For example, Figure 8 depicts a sectional side view of an embodiment of a connector body, while Figure 7 separately depicts a sectional side view of an embodiment of a post. *Id.* at 9:36 – 10:55. The specification also describes "[a] method for electrically coupling the nut **30** and the connector body **50**" that "may include the steps of providing a connector body **50** attached to the post **40** . . . ; a rotatable coupling

element **30** attached to the post **40**; and a nut-body continuity element **75** located between the connector body **50** and the rotatable coupling element **30**]." *Id.* at 15:41-56. Moreover, with reference to Figure 3, the specification explains that the nut-body continuity element "may help transfer the electricity or current from the post **40** . . . to the nut **30** and to the connector body **50**," suggesting that the electricity passes through (at least) three separate components – the post, the nut, and the connector body. *Id.* at 7:46-55.

With respect to the connector body, it is variously described as simply "connector body" (without reference to its relationship with the post), as well as "a connector body attached to a post" and "an integral post connector body." See, e.g., '229 Patent, Abstract, 11:8, 7:61 ("connector body"); 1:51, 61 ("a connector body attached to a post"); 3:10, 11:26-27 ("an integral post connector body"). In some instances, when the specification describes the connector body without reference to its relationship with the post, as in Claims 1 and 9, it is not clear whether the post is attached as an independent component or the connector body, as an independent component, includes a post. See, e.g., *id.* at Claim 1 ("A coaxial cable connector comprising. . . a connector body having a first body end configured to face away from an interface port when the

connector is in an assembled state, and a second body end configured to face toward the interface port when the connector is in the assembled state[.]"). Because independent Claims 1 and 9, which are not at issue in this case, do not include the terms "a connector body attached to a post" or "an integral post connector body," and instead simply provide for "[a] coaxial cable connector comprising. . . a connector body," it is possible that those claims, and other dependent claims, cover the embodiment depicted in Figure 10. Accordingly, without making any determination regarding whether Claims 1 and 9 indeed encompass Figure 10, I recommend the court adopt PPC's construction of the term "a connector body attached to a post" for the purposes of this action in light of the limited claims asserted.

2. Radial End Face Surface Extending From The Inner Surface/Radial End Face Surface Extending From the Inner Surface Portion

The '229 Patent also contains the terms "radial end face surface extending from the inner surface" and "radial end face surface extending from the inner surface portion." PPC asserts that those terms should be construed to mean "a radial surface that faces an end of a connector." Dkt. No. 27-1 at 7; Dkt. No. 39 at 25. TFC maintains that these terms should be construed to mean "a mating edge surface that faces an end of the

coupling element/nut." Dkt. No. 27-1 at 7; Dkt. No. 37 at 23.

Asserted Claims 14 and 19 of the '229 Patent both require that the continuity element disclosed contact the radial end face surface of the coupling element. See '229 Patent, Claim 14 ("[A] continuity element having a first surface . . . contacting only the end face surface of the port coupling element[.]"); Claim 19 ("[T]he continuity element having a first side configured to be biased against only the radial end face surface of the post coupling element[.]"). The parties do not agree, however, as to which portion of the coupling element is the "radial end face surface," focusing on two embodiments of the patent at issue reflected in Figures 6 and 11, shown below:

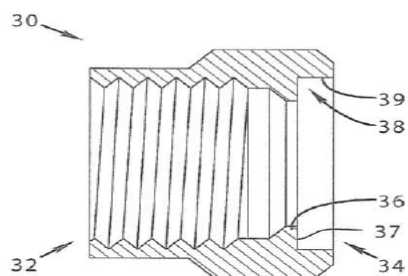


FIG. 6

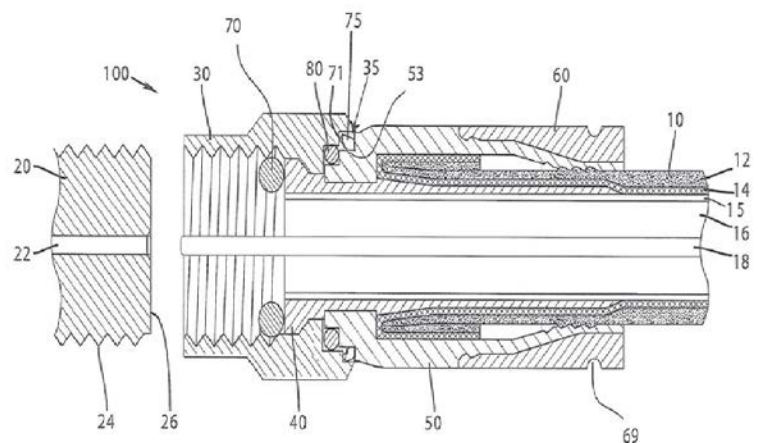
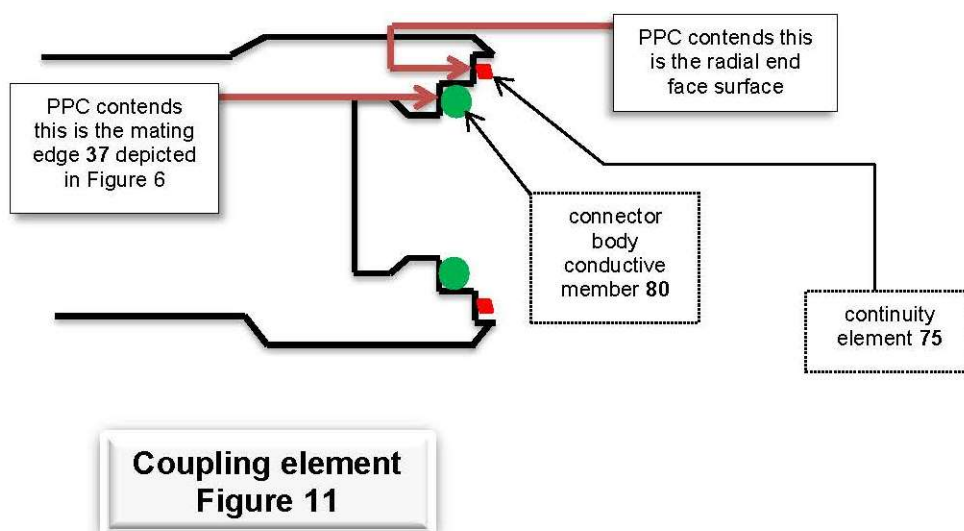


FIG. 11

'229 Patent, Figs. 6, 11. TFC contends that the radial end face surface should be construed as the mating edge **37**, shown in Figure 6, and that the same mating edge/radial end face surface is depicted in Figure 11 as the surface of the coupling element, or nut **30**, that is in contact with the continuity element **75**. Dkt. No. 48 at 23. PPC, on the other hand, maintains that mating edge **37** shown in Figure 6 is but one example of a radial end face surface, and, insofar as Figure 11 is concerned, the radial end face surface is, as TFC contends, the portion of the coupling element **30** that contacts the continuity element. Dkt. No. 45 at 19-20. Unlike TFC, however, PPC argues that the mating edge **37** referenced in Figure 6 is the portion of Figure 11 that shows the coupling element **30** contacting the connector body conductive member **80**.⁴ *Id.* Although the parties agree

⁴ A rudimentary sketch illustrating PPC's position is depicted below:



that, with respect to Figure 6, the mating edge **37** is a radial end face surface, neither the specification nor the claims supports the parties' arguments with respect to which portion of the coupling element depicted in Figure 11 is the radial end face surface because that term is not included within the specification. Moreover, the specification does not, as both parties suggest, identify any portion of the coupling element depicted in Figure 11 as being the mating edge that was earlier identified in Figure 6. Accordingly, I do not find that reference to either of these embodiments is particularly helpful in construing the disputed terms.

In support of its position, TFC points to PPC's remarks before the PTO during prosecution of its patent application. In response to the PTO Examiner's rejection of certain claims contained within the '229 Patent, PPC argued the patentability of all the claims based on, *inter alia*, the following statement:

Applicant respectfully contends that Mathews[, a specific prior art,] does not anticipate claim 1, because Mathews does not teach each and every feature of claim 1. For example, Mathews does not teach a coaxial cable connector comprising: a continuity element . . . located outside the inner coupling element portion of the coupling element and outside the connector body proximate the second end of the connector body such that no portion of the continuity member is located either inside the connector body or inside the radial mating edge end face surface of the coupling element . . .

the continuity element including: a coupling element side surface configured to face toward the interface port when the connector is in the assembled state, maintain contact with only the radial mating edge end face surface of the coupling element[.]

Dkt. No. 37-6 at 18 (emphasis in original). The Examiner thereafter allowed issuance of the patent, explaining that, "[r]egarding claims 1,7,13 and 18, patentability resides, at least in part, in that no portion of the continuity member is located either inside the connector body or inside the radial mating edge end face surface of the coupling element when the connector is in the assembled state[.]" Dkt. No. 37-8 at 7. TFC contends that PPC's reference to the "radial mating edge end face surface of the coupling element," as well as the Examiner's similar reference in allowing the patent, reflects PPC's intent to identify the mating edge **37** depicted in Figure 6 as the radial end face surface.

The flaw in TFC's argument is that the coupling element may have different shapes, as demonstrated in Figures 6 and 11, shown above, and the specification does not identify the mating of the coupling element anywhere except Figure 6. Accordingly, although it may be true that the prosecution history in this case suggests PPC intended the mating edge of the coupling element depicted in Figure 6 to be the radial end face surface, it is not clear from the specification which portion of the coupling

element is the mating edge when the coupling element is depicted in other embodiments of the patent.

In light of the absence of any support for TFC's position that, because Figure 6 depicts the radial end face surface as the mating edge **37**, the terms in dispute should be construed as "a mating end surface," I recommend the court adopt PPC's proposed construction.⁵ PPC's construction does not limit the radial end face surface to one particular embodiment within the specification and still allows the mating edge **37** depicted in Figure 6 to serve as one example of the radial end face surface. Accordingly, I recommend that the terms "radial end face surface extending from the inner surface" and "radial end face surface extending from the inner surface portion" as "a radial surface that faces an end of the connector."

⁵ As PPC notes, the terms "mating edge" and "mating edge surfaces" appear throughout the '229 Patent, referring to a number of different surfaces. Dkt. No. 39 at 26. At one point the specification describes the port as having "a mating edge **26**." '229 Patent 5:14-16. Similarly, the post is described as having "a mating edge **49**." *Id.* at 9:45-46. One embodiment also disclosed describes an O-ring as being a "mating edge member." *Id.* at 11:38-39. And, as was previously noted, the specification identifies feature **37** in Figure 6 as a mating edge. *Id.* at 6:66-67. The inventors thus utilized "mating edge" when describing different features of different components of the invention. I therefore recommend that the court decline TFC's invitation to interject "mating edge" into the construction of the disputed terms as both unwarranted and potentially risking the introduction of ambiguity into the claim requiring a jury to determine what would qualify as a "mating edge."

3. Inner Surface/Inner Surface Portion

The asserted claims of the '229 Patent also contain the terms "inner surface" (Claims 14 and 16) or "inner surface portion" (Claim 19). PPC argues that the two terms should be defined to mean "a surface located inside the coupling element." Dkt. No. 27-1 at 8; Dkt. No. 39 at 28. As its proposed definition of these terms, TFC offers "a surface inside of the coupling element/nut and not on or at the edge or outside of the coupling element/nut." Dkt. No. 27-1 at 8; Dkt. No. 37 at 27.

As PPC argues, these two claim terms appear to be uncontroversial, clearly and unambiguously appearing to refer to a surface located inside the coupling element,⁶ from which a radial surface extends. See, e.g., '229 Patent, Claim 14. TFC, however, proposes to add the requirement that the inner surface cannot be on or at the edge or outside the coupling element. In support of its argument, TFC again relies on the embodiment depicted in Figure 6, shown above in part III.B.2. of this report. Dkt. No. 37 at 27. This reliance is misplaced. While it may be true, as TFC contends, that Figure 6 depicts the mating edge surface **37** as extending from "farther within the interior of the nut **30** such that [it] is not on the edge or outside of the nut," Dkt. No. 37 at 27, this does not necessarily exclude the surface

⁶ The specification variously identifies this component of the invention as "nut," "port coupling element," "coupling element," and "coupler." '229 Patent, 8:50-51.

inside the coupling element that abuts the edge or outside from being considered part of the inner surface of the coupling element. Instead, Figure 6 merely depicts one instance where the mating edge surface extends from farther within the interior of the coupling element, and I find no reason to use this embodiment, on its own, as a basis for limiting any of the patent's claims. See, e.g., *Fuji Photo Film Co., Ltd. v. Int'l Trade Comm'n*, 386 F.3d 1095, 1106 (Fed. Cir. 2004) ("[T]he scope of the claims is not limited to the preferred embodiments described in the specification."). In addition, the term "inner surface" is used throughout the specification without reference to its boundaries. For example, with reference to the embodiments depicted in Figures 8 and 9, the specification explains that "[t]he ramped surface **66** may act to deformably compress the inner surface **57** of a connector body **50**[" '229 Patent, 11:6-8. Inner surface **57**, reflected in Figure 8, is not limited to only the portions that do not abut the edges or are not on the outside of the connector body. Accordingly, I find TFC's proposed construction improperly imports a limitation from a preferred embodiment. Because PPC's proposed construction is consistent with the specification and the plain and ordinary meaning of the term, I recommend that "inner surface" and "inner surface portion" be construed as "a surface located inside the

coupling element."⁷

⁷ I find neither of the parties' arguments compelling with respect to Figure 13, which is reproduced below:

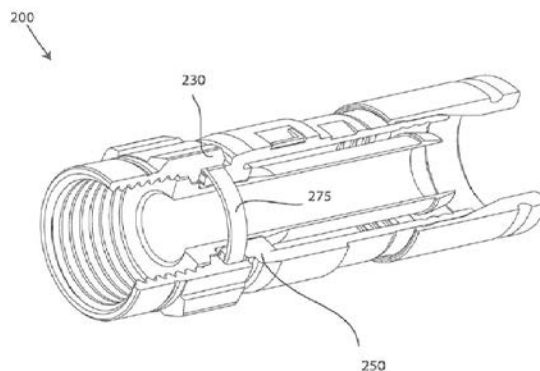


FIG.13

'229 Patent, Fig. 13. Figure 13 reflects an embodiment in which a nut-body continuity element **275** is placed between the nut **230** and the connector body **250**. '229 Patent, 16:4-9. The port coupling element, or nut **230**, has an inner surface, and the continuity element **275** "has a first surface **271** [(not shown)] and a second surface **272** [(not shown)]", the first surface **271** contacting the inner surface of the port coupling element **230** and the second surface **272** contacting the outer annular recess of the connector body **250**, wherein the continuity element **275** establishes and maintains electrical communications between the port coupling element **230** and the connector body **250** in a radial direction." '229 Patent, 16:15-22. PPC contends that this figure shows that the continuity member contacts the coupling element on or at its edge or outside of it. Dkt. No. 39 at 23. TFC, however, emphasizes that a close look at the bottom portion of Figure 13, where the continuity member meets the coupling element and connector body, reveals that the continuity member is "spaced from the edge of the nut[.]" Dkt. No. 48 at 25. While TFC appears to be correct in this regard, a close look at the top of Figure 13 (again, where the continuity member meets the coupling element and connector body) reveals that the continuity member is at the edge of coupling element, as PPC contends. Because I am not able to reconcile the difference between the top and bottom portions of Figure 13 with respect to where the continuity member contacts the inner surface of the coupling element, I do not find either party's argument persuasive.

4. Outer Annular Surface/Annular Outer Surface/Outer Surface

The '229 Patent also contains the terms "outer annular surface," "annular outer surface," and "outer surface." PPC proposes that those three terms be defined to mean "a surface other than the second end of the connector body that is cylindrical and located near the second end of the connector body." Dkt. No. 27-1 at 8; Dkt. No. 39 at 29. TFC responds by arguing that the term "outer surface" should be considered separately from the other two terms. Dkt. No. 27-1 at 8; Dkt. No. 37 at 28; Dkt. No. 48 at 27. TFC suggests that "outer surface" needs no construction, and that the terms "outer annular surface" and "annular outer surface" should be construed as "an outer surface that forms a ring[.]" *Id.*

At the outset, I agree with TFC that "outer surface" should be considered separately from the other two terms at issue. "Outer surface" is used in Claim 19, while "annular outer surface" and "outer annular surface" are used in Claim 14. To attribute the same meaning to all three terms would ignore the well-established principle that, "when [a patentee] uses different terms in a claim[,], it is permissible to infer that he intended his choice of different terms to reflect a differentiation in the meaning of those terms." *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1119-20 (Fed. Cir. 2004); see also *CAE Screenplates Inc.*

v. Heinrich Fielder GmbH & Co. KG, 224 F.3d 1308, 1317 (Fed. Cir. 2000) ("In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings."). Although I find that the patentee in this case appears to have used "annular outer surface" and "outer annular surface" interchangeably, there is nothing to suggest that those terms should be construed the same as "outer surface." Because the parties' principal dispute with respect to these terms concerns whether the outer surface of the connector body may include the second end of the connector body, a matter that relates to both the term "outer surface" and the terms "annular outer surface" and "outer annular surface," I have discussed the three terms in tandem, but have recommended separate constructions.

The words "outer" and "surface" do not appear to be controversial. A person of ordinary skill in the art, and a lay juror, would presumably understand the concept of an "outer surface." The term is included in the portion of the specification addressing Figure 8 of the '229 Patent, shown below:

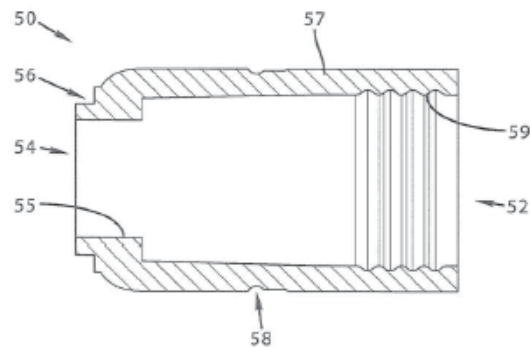


FIG.8

'229 Patent, Fig. 8. Referring to that figure, the specification provides that "the connector body may include a semi-rigid, yet compliant outer surface **57**, wherein the surface **57** may include an annular detent **58**." '229 Patent, 10:17-19. I therefore recommend that the court conclude no construction is necessary for this term.

The addition of the term "annular" to the concept of "outer surface" is more problematic. Nowhere in the specification is the term "annular" defined, nor do any of the embodiments reflected in the '229 Patent depict and specifically identify an outer annular surface. The use of the term "annular" in connection with the outer surface of the connector body suggests the outer surface is formed in the shape of a ring. See, e.g., *annular, adj.*, Oxford English Dictionary, <http://www.oed.com/view/Entry/7964?redirectedFrom=annular#eid> (last visited Jan. 29, 2015) ("Of or pertaining to a ring or rights; ring-like, ring-

formed, ringed."); *The Am. Heritage Dictionary of the English Language* 73 (Joseph P. Pickett, et al. eds.) 4th ed. 2000 ("Shaped like or forming a ring."). Because I do not find any support for PPC's proposed use of the word "cylindrical," I reject that portion of its suggested construction.

The next issue with respect to these terms stems from PPC's suggestion that they be additionally restricted in two ways. It maintains that the outer surface or outer annular surface/annular outer surface must be located near the second end of the connector body, but it cannot be comprised of that second end. PPC's inclusion of the phrase "located near the second end of the connector body" in its proposed construction is superfluous. As noted above, both Claims 14 and 19 contain language requiring that the outer surface or outer annular surface/annular outer surface be "proximate the second end." To include in the construction of those terms any indication of their location relative to the second end of the connector body would create an unnecessary redundancy. See, e.g., *Douglas Dynamics, LLC v. Buyers Prods. Co.*, 717 F.3d 1336, 1350 (Fed. Cir. 2013) ("[The plaintiff's] argument that the term 'connected' means 'indirectly connected' cannot be correct because it would render other language in claim 45 superfluous."). For this reason, I am not inclined to

recommend inclusion of the phrase "located near the second end of the connector body," as urged by PPC.

The last question with respect to these disputed terms is whether the outer surface of the connector body may include the second end of the connector body. The claim language and specification require that the outer surface be proximate the second end of the connector body, which, on its own, suggests that the outer surface or outer annular surface/annular outer surface is independent from the second end.⁸ Accordingly, to conclude that the outer surface or outer annular surface/annular outer surface of the connector body could include the second end of the connector body would render the phrase "proximate the second end of the connector body" meaningless, which is improper. See *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) ("[C]laims are interpreted with an eye toward giving effect to all terms in the claim."). Nonetheless, there is nothing in the specification to support PPC's position that the outer surface is one other than the second end of the connector body, as urged by PPC. "Second end of the connector body" is not defined in the patent, and the embodiments do not clearly identify either the second end or outer surface of the connector body.

⁸ The parties have stipulated that the term "proximate" should be construed as "near." Dkt. No. 27-1 at 10.

Absent definitive guidance concerning this issue from the specification, I am not inclined to recommend PPC's suggested limitation. Accordingly, I recommend that the court construe the terms "annular outer surface" and "outer annular surface" to mean "an outer surface that forms a ring."

5. Axial Direction

The last disputed term regarding the '229 Patent is "axial direction." Dkt. No. 27-1 at 9. PPC submits that this term should be construed to mean "in the general direction of the main axis of the connector," while TFC argues that it should be defined as "in a direction parallel to the main axis of the connector."⁹ *Id.*; Dkt. No. 37 at 29; Dkt. No. 39 at 32.

Claim 14 of the '229 Patent requires that "the continuity element establishes and maintains electrical connection between the coupling element and the connector body in an axial direction." Once again, this claim term appears to be clear and unambiguous, suggesting a general direction of the main axis of the connector. TFC seeks to interject the additional limitation that the electrical connection must be maintained in a direction parallel to the main axis of the connector. PPC, anticipating

⁹ In the joint claim construction statement filed with the court on January 21, 2014, PPC proposed, as a construction of this term, "in the general direction of the main axis of the connector." Dkt. No. 27-1 at 9. In their principal claim construction brief, however, PPC added the phrase "and not limited to a direction that is perfectly parallel to such a main axis." Dkt. No. 39 at 32. I do not recommend inclusion of this further limitation because it is implicit in the construction I propose and is therefore redundant.

TFC's defenses, interprets this to disclose one of TFC's non-infringement arguments – that the electrical connection must be perfectly parallel to the main axis of the connector, and cannot, for example, be angled. Dkt. No. 39 at 28.

That the axial direction of the electrical connection established between the coupling element and the connector body need not be perfectly parallel is aptly illustrated in Figure 9 of the '229 Patent, as follows:

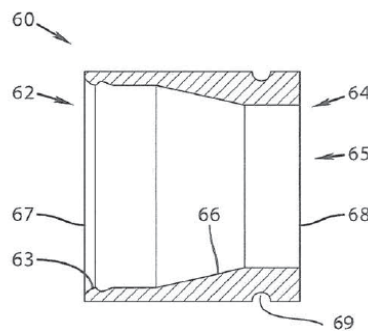


FIG.9

'229 Patent, Fig. 9. The passageway depicted in that figure does not extend perfectly parallel to the axis of the connector, but instead follows a tapered path. Similarly, the embodiments reflected in Figures 1 through 5 and 11 through 13 illustrate embodiments in which the electrical connection or conductive path is not perfectly axially linear on each side despite a statement in the specification that the nut-body continuity

element in many embodiments axially contacts the nut and the connector body. '229 Patent 7:55-57. Accordingly, to adopt TFC's definition would impermissibly eliminate or read out of the '229 Patent several of the embodiments reflected in the accompanying figures. I therefore recommend the court adopt PPC's definition of the term "axial direction" and construe it to mean "in the general direction of the main axis of the connector."

IV. SUMMARY AND RECOMMENDATION

The parties to this patent infringement action have conferred and agreed upon construction of several previously disputed terms. I recommend that the court adopt the stipulated terms as consistent with the guiding claim construction principles set forth above. Turning to the disputed claims, having considered the submissions of the parties and available intrinsic and, to the extent necessary, extrinsic evidence, again in light of the guiding claim construction principles, I recommend the claim constructions set forth below. It is therefore hereby respectfully

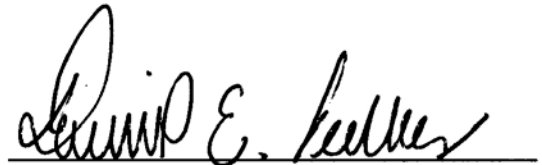
RECOMMENDED that the court affix the following meaning to the following patent claim terms:

Term	Proposed Constructions
continuity element/continuity member	a conductive component that provides continuity of grounding
proximate	near
electrical continuity	a consistent electrical ground path
a connector body attached to a post	a post and connector body, which are separate components, of the connector (<i>i.e.</i> they are not a single integral component), that are interlocked with one another to prevent axial movement of one relative to the other
radial end face surface extending from the inner surface/radial end face surface extending from the inner surface portion	a radial surface that faces an end of the connector
inner surface/inner surface portion	a surface located inside the coupling element
outer surface	no construction necessary
outer annular surface/annular outer surface	an outer surface that forms a ring
axial direction	in the general direction of the main axis of the connector

NOTICE: Pursuant to 28 U.S.C. § 636(b)(1), the parties may lodge written objections to the foregoing report. Such objections must be filed with the clerk of the court within FOURTEEN days of service of this report. FAILURE TO SO OBJECT TO THIS REPORT WILL PRECLUDE APPELLATE REVIEW. 28 U.S.C. § 636(b)(1); Fed. R. Civ. P. 6(a), 6(d), 72; *Roldan v. Racette*, 984 F.2d 85 (2d Cir. 1993).

It is hereby ORDERED that the clerk of the court serve a copy of this report and recommendation upon the parties in accordance with this court's local rules.

Dated: January 30, 2015
Syracuse, New York

A handwritten signature in black ink, appearing to read "David E. Peebles", written over a horizontal line.

David E. Peebles
U.S. Magistrate Judge